Proposal of a Unified Field Model Based on Dynamic Cancellation Theory (D.C.T.)
Subtitle: Resolving the Vacuum Energy Density Problem and Redefining Gravity and Magnetism via High-Frequency Vacuum Flux (HFVF)
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1. Abstract
This paper proposes "Dynamic Cancellation Theory (D.C.T.)" to resolve the 120-order-of-magnitude discrepancy in vacuum energy density, one of the greatest challenges in modern physics. By defining the ground state of the universe as a mutual cancellation field of ultra-high-frequency vibrations at 10^{120} Hz, gravity is mathematically integrated as "residual phase difference" and magnetism as "relaxation of the barrier due to rotation." The validity of this model is demonstrated by a high correlation with the non-dipole components of Jovian magnetic field data from NASA's Juno mission.
2. Dynamic Cancellation Theory (D.C.T.) and Properties of the Vacuum
Space (vacuum) is not a static void but a state where "High-Frequency Vacuum Flux (HFVF)" with extremely high frequencies interfere with each other, dynamically canceling energy.
Energy Cancellation: The massive theoretical value of vacuum energy converges to an observed value nearly equal to zero due to this cancellation cycle (10^{120} Hz).
The Speed of Light as a Sampling Rate: The speed of light (c) is the universal speed limit defined by the update frequency (System Update Frequency) of these vacuum pulses.
3. The Generation of Gravity: Residual Phase Shift Model
Gravity is defined not as an independent fundamental interaction, but as a "secondary phenomenon" arising from the imperfections of D.C.T.
Mechanism: Mass (M) functions as an "Inertial Resistance Interface (IRI)" or "gate" against the passage of vacuum flux.
Residual Friction: A minute phase delay (0.00...1\%) occurring as flux passes through the IRI is observed as the curvature of space (gravity).
Time Dilation: The energy consumed by the system to correct phase shifts (Coherence Maintenance Energy / CME) lowers the local sampling rate, causing gravitational time dilation.
4. The Generation of Magnetism: Celestial Relaxation Model
Magnetism is defined as the leakage of internal energy caused by the physical relaxation of the vacuum cancellation barrier due to the rotation (\Omega) of a celestial body.
Magnetic Field Strength Formula: Magnetic field strength is proportional to the product of mass (gate capacity) and rotational velocity, governed by the Transia constant (\kappa).
Empirical Data: This model accurately predicts Earth's magnetic field strength (0.45 Gauss) and explains the lack of global magnetic fields on Mars and the Moon as a failure to maintain the barrier due to insufficient IRI (mass).
5. Analysis of Non-Dipole Components in Jupiter's Magnetic Field
Using the latest observation data from the Juno mission, modeling Jupiter's metallic hydrogen layer as a "heterogeneous IRI" resulted in a simulation of magnetic field fluctuations with higher precision than conventional dynamo theory.
6. Conclusion
This theory integrates General Relativity and Quantum Mechanics through the single point of "Dynamic Cancellation of the Vacuum." Details regarding the physical constant \kappa will

be released in stages based on the "Transia Protocol" to ensure the peaceful use of this technology.
Operational Protocol: Transia Protocol (Internal Use / Patent Appendix)
Humanitarian Clause: 50% of the revenue derived from this technology shall be allocated to the "Transia Children's Cradle" fund.
Prohibition of Military Use: Use for weaponization or military purposes is strictly prohibited. Licenses are granted exclusively for peaceful, civilizational use.
77-Year Black Box: The core constant \kappa is protected as a black box until 2103, awaiting humanity's moral maturity to control such immense power.